



COMPANY **FRAM OPERATING LLC**
WELL **MANSUR 33-4-C**
FIELD **WHITEWATER**
PROVINCE/COUNTY **MESA**
COUNTRY/STATE **U.S.A. / COLORADO**
LOCATION **SHL: 2004' FNL & 607' FEL**
LAT. XXXXXXXX ; LONG. XXXXXXXX

SEC 33 TWP 12S RGE 97W
API Number 05-077-09474
Permit Number
Other Services

Permanent Datum G.L., Elevation 6227 feet
Log Measured From K.B. @ 12 FEET above Permanent Datum
Drilling Measured From K.B.

Elevations:
KB 6239.00 feet
DF 6238.00
GL 6227.00

Date	3-OCT-2010	
Run Number	ONE	
Depth Driller	3650.00	feet
Depth Logger	3620.00	feet
First Reading		
Last Reading		
Casing Driller	537.00	feet
Casing Logger	536.00	feet
Bit Size	8.750	inches
Hole Fluid Type	KCL	
Density / Viscosity	8.90 lb/USg	40.00 CP
PH / Fluid Loss	9.20	9.20 ml/30Min
Sample Source	MUD PIT	
Rm @ Measured Temp	1.78 @ 87.0	ohm-m
Rmf @ Measured Temp		
Rmc @ Measured Temp		
Source Rmf / Rmc	CALC	CALC
Rm @ BHT		
Time Since Circulation	8 HOURS	
Max Recorded Temp	132.00	deg F
Equipment Name	COMPACT	
Equipment / Base	13045	GID JCT
Recorded By	M.RICHINS	
Witnessed By	J.GRIGGS	

BOREHOLE RECORD

Last Edited: 03-OCT-2010 18:31

Bit Size inches	Depth From feet	Depth To feet
8.750	537.00	3650.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	9.625	0.00	537.00	36.00

REMARKS

TOOLS: SHA, MCG, MDN, MPD, SKJ, MFE, MSS AND MAI RAN IN COMBINATION

HARDWARE: MPD: (1) 8 INCH PROFILE PLATE
MDN: (1) DUAL BOWSPRING
MFE: (1) 0.5 INCH STANDOFF
MSS: (3) 1 INCH STANDOFFS
MAI: (1) 0.5 INCH STANDOFF

2.68 G/CC DENSITY MATRIX USED TO CALCULATE POROSITY.

ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST.

TIGHT PULLS, BOREHOLE SIZE, AND RUGOSITY WILL AFFECT REPEATABILITY AND DATA QUALITY.

CALIPER CHECK IN CASING PRESENTED, REFERENCE I.D. =8.97" (9 5/8", 36 LB/FT CASING)

TOTAL HOLE VOLUME FROM TD TO SURFACE CASING = 1330 CU.FT.

ANNULAR VOLUME WITH 5.5 INCH PRODUCTION CASING = 830 CU.FT.

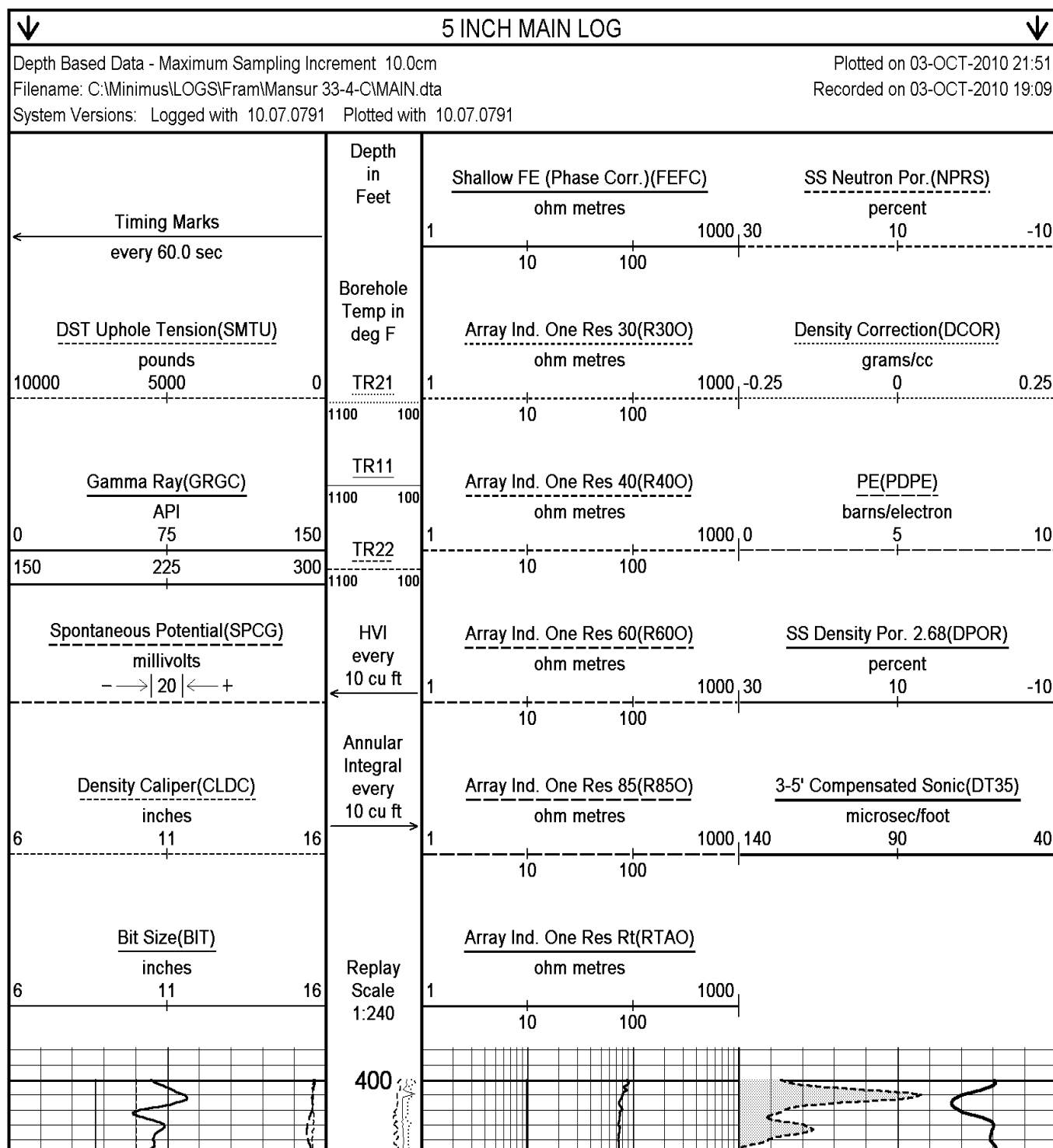
ENGINEER(S): M.RICHINS

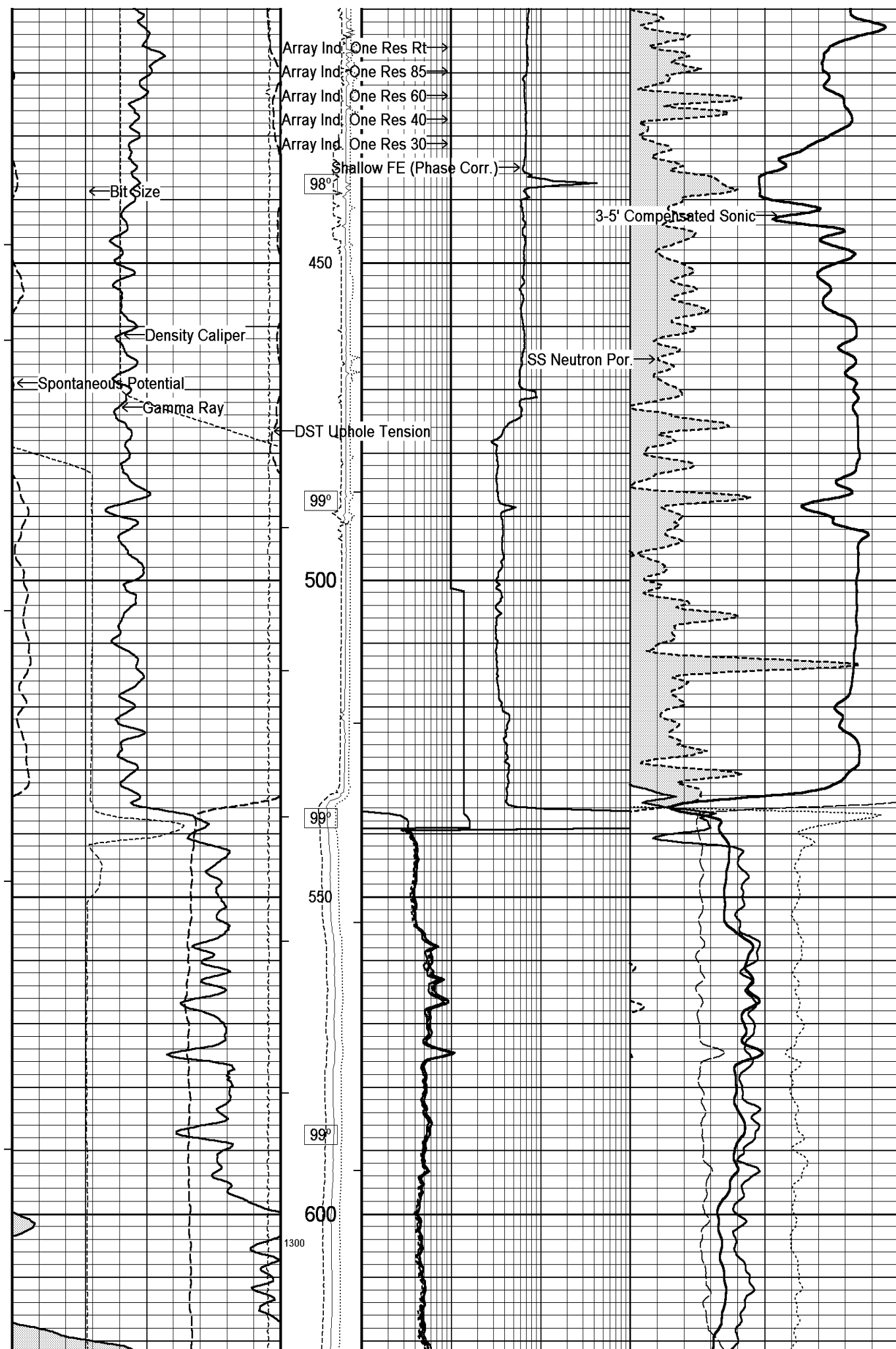
OPERATOR(S): S. KAISER, K.MATEJOVSKY

SERVICE ORDER: #3516266

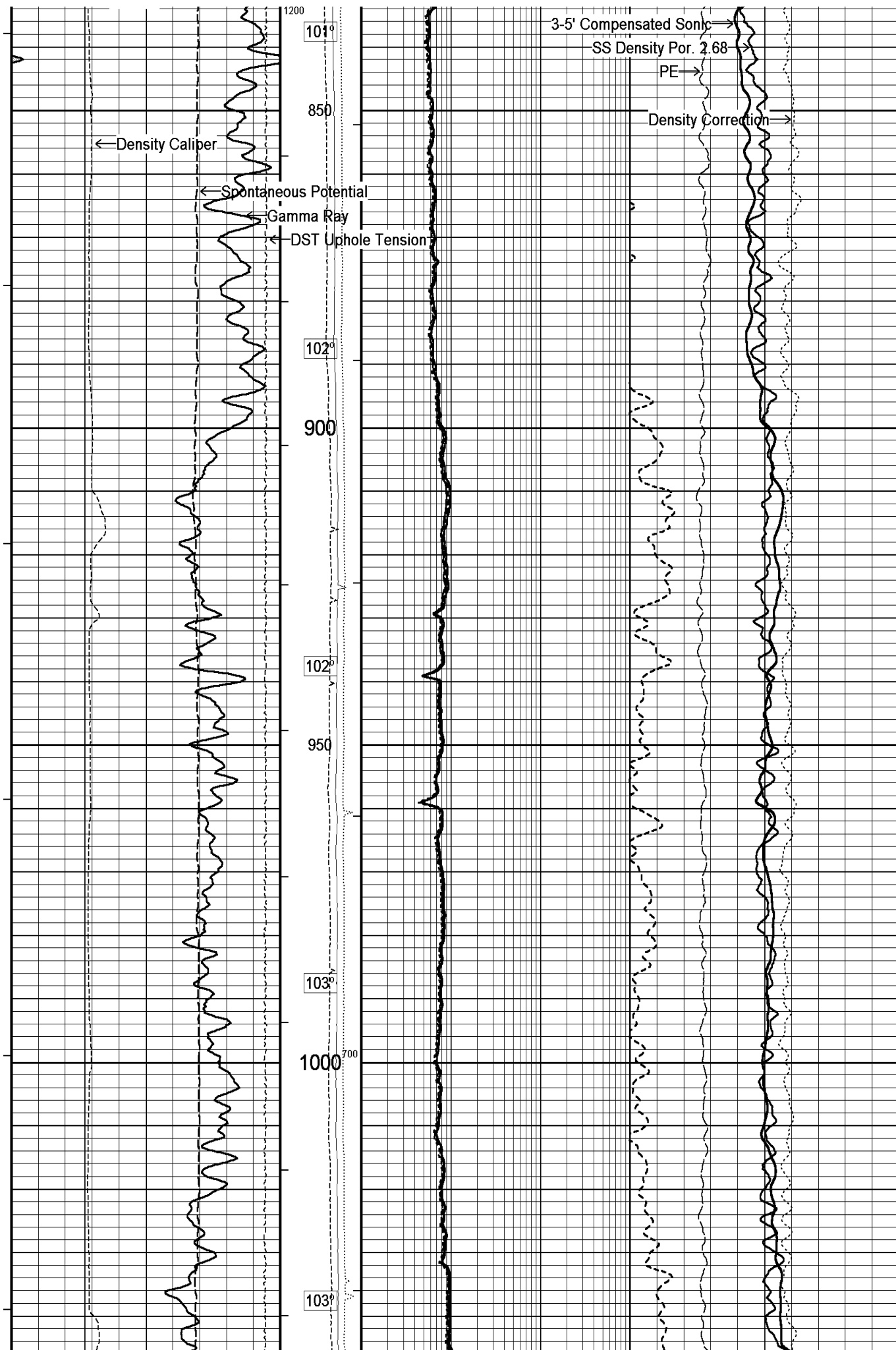
RIG: XXXXXXXXXXXX

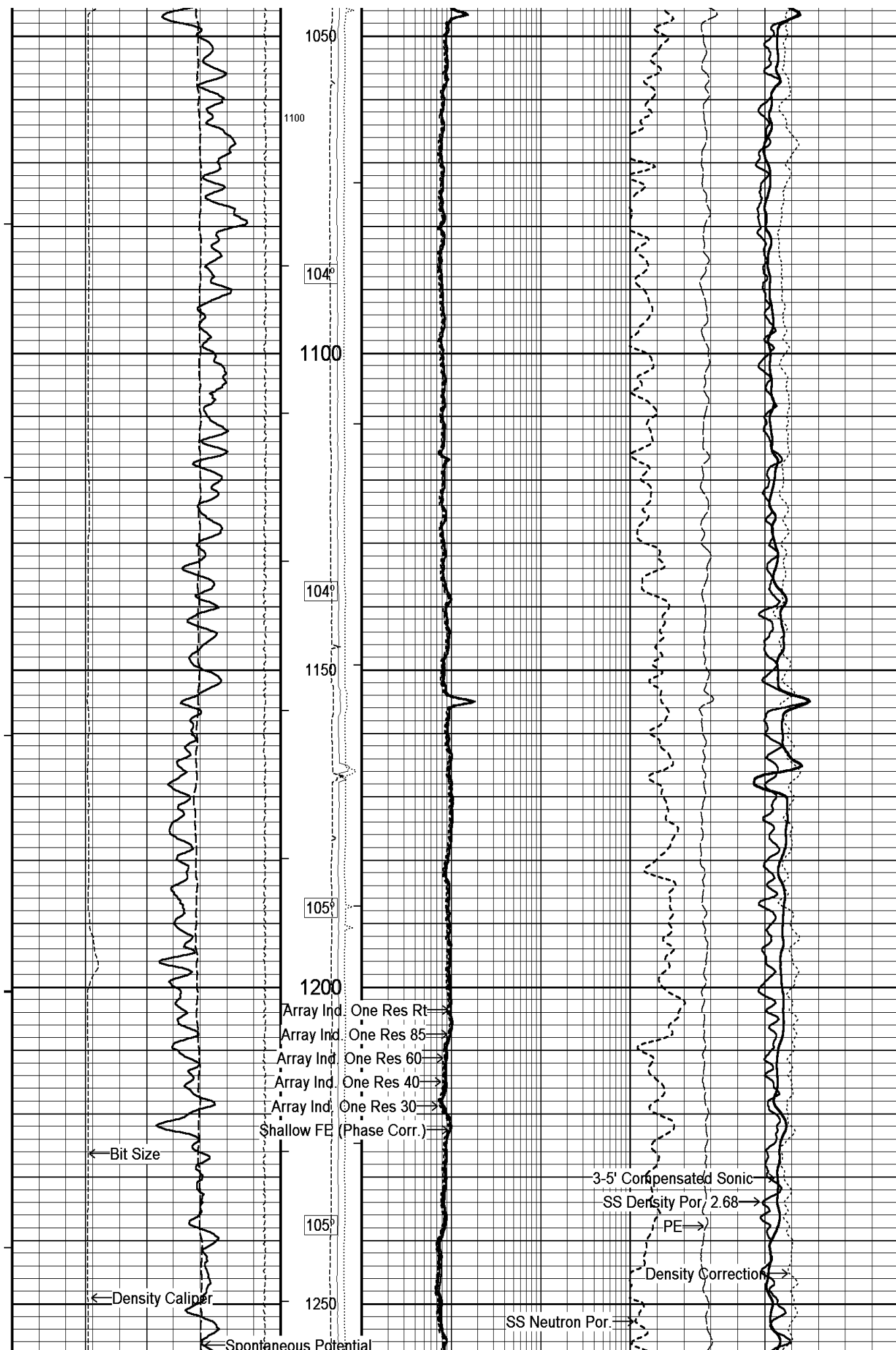
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions in our price schedule.

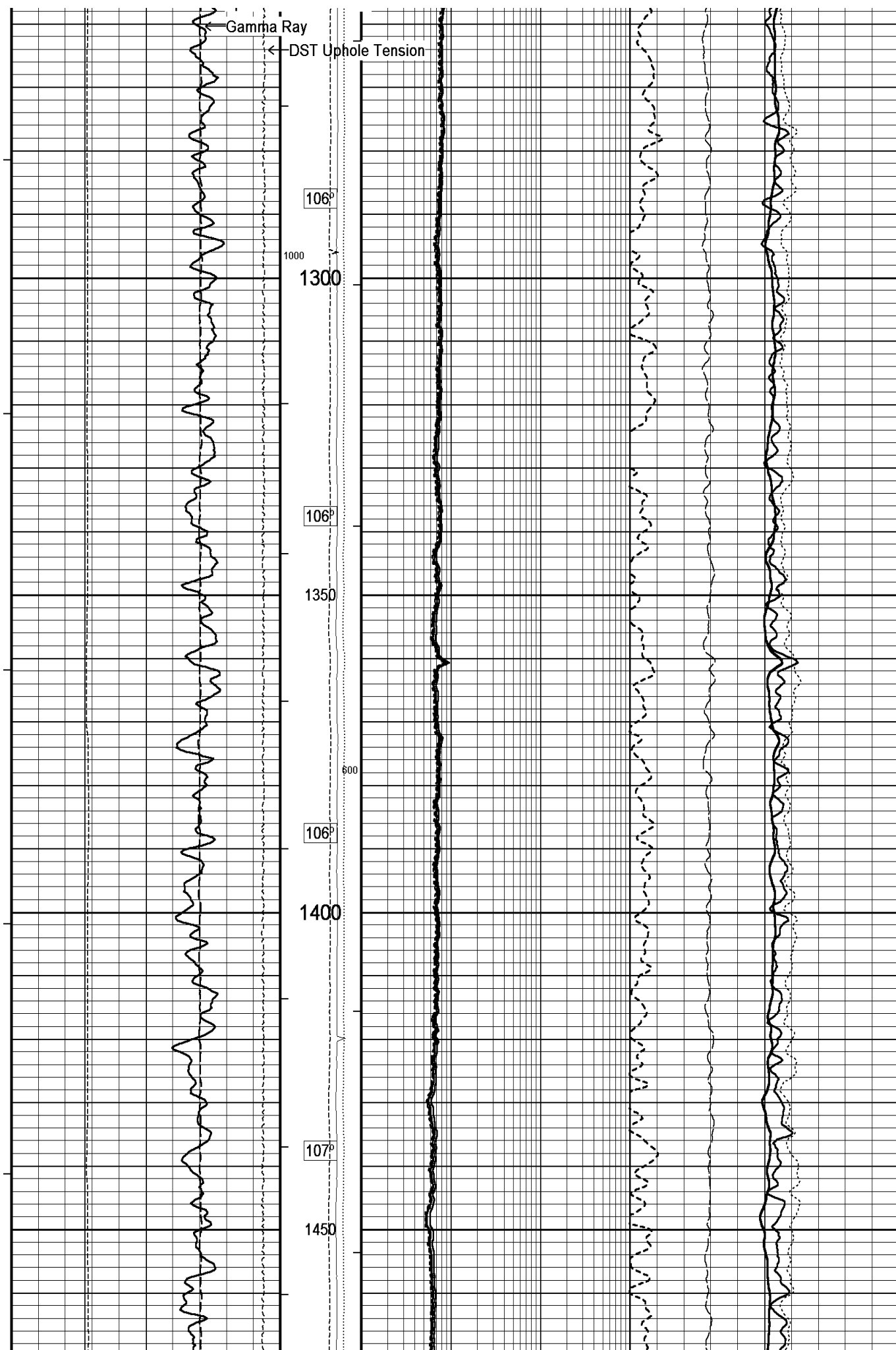


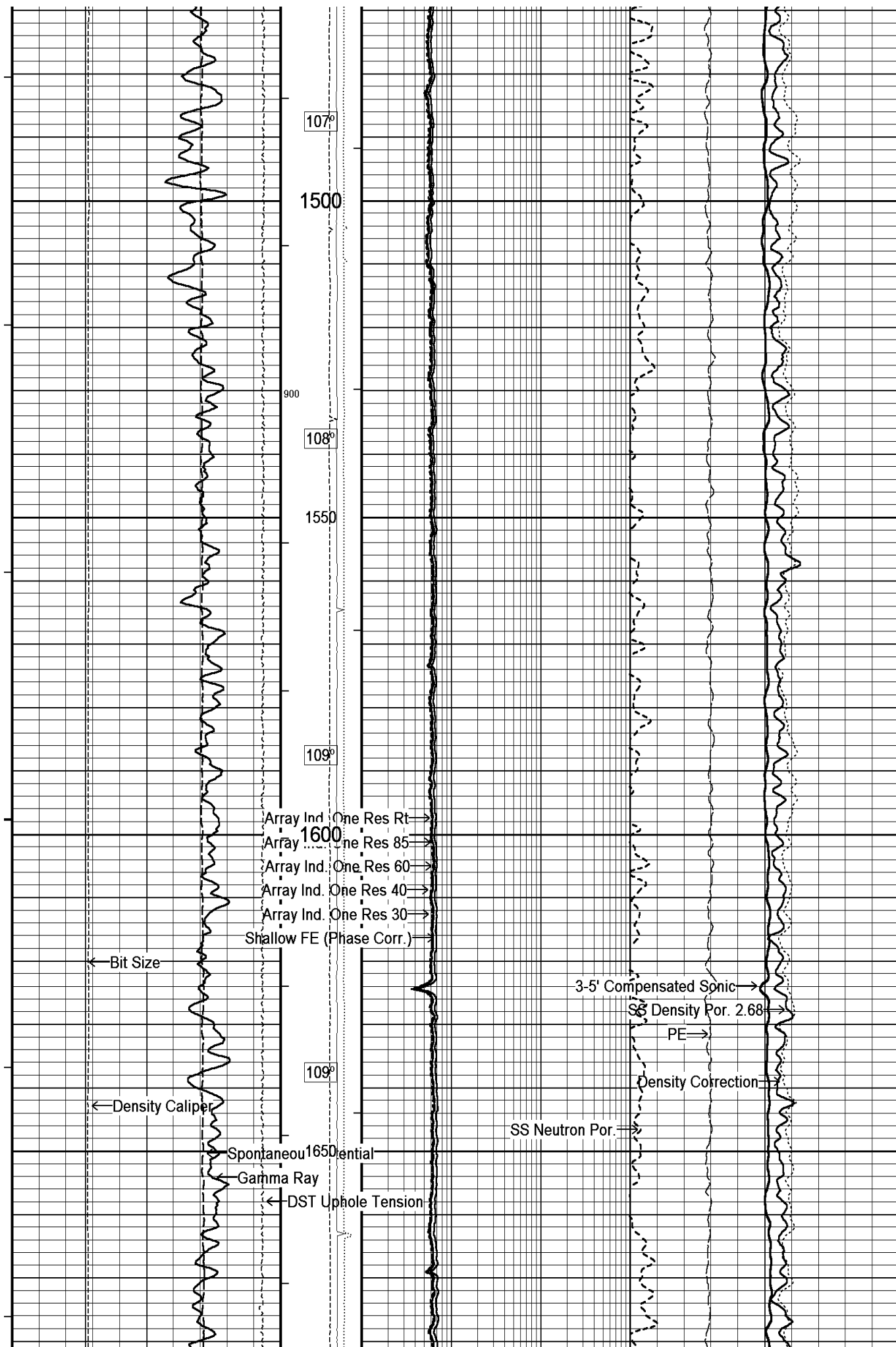


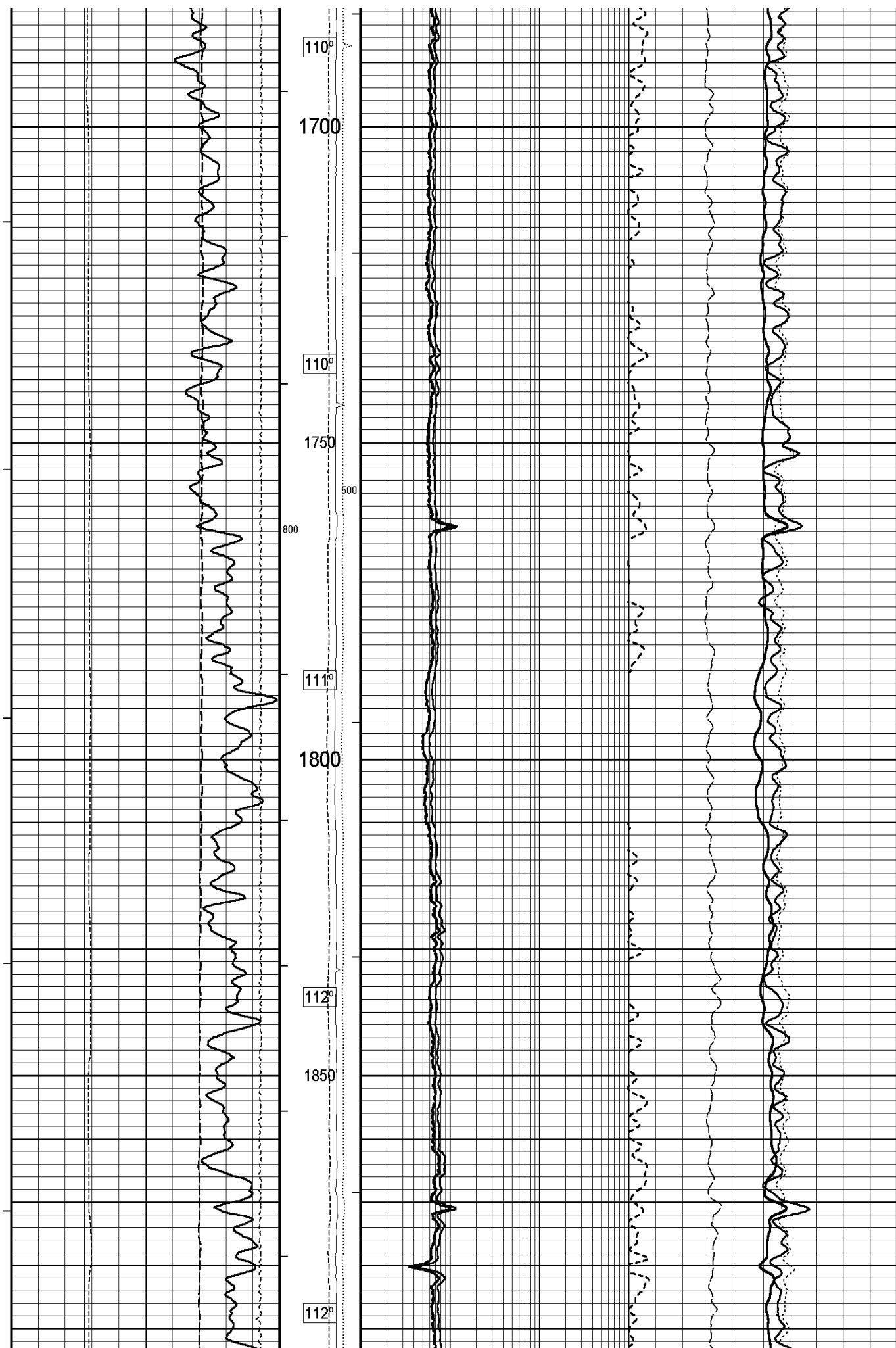


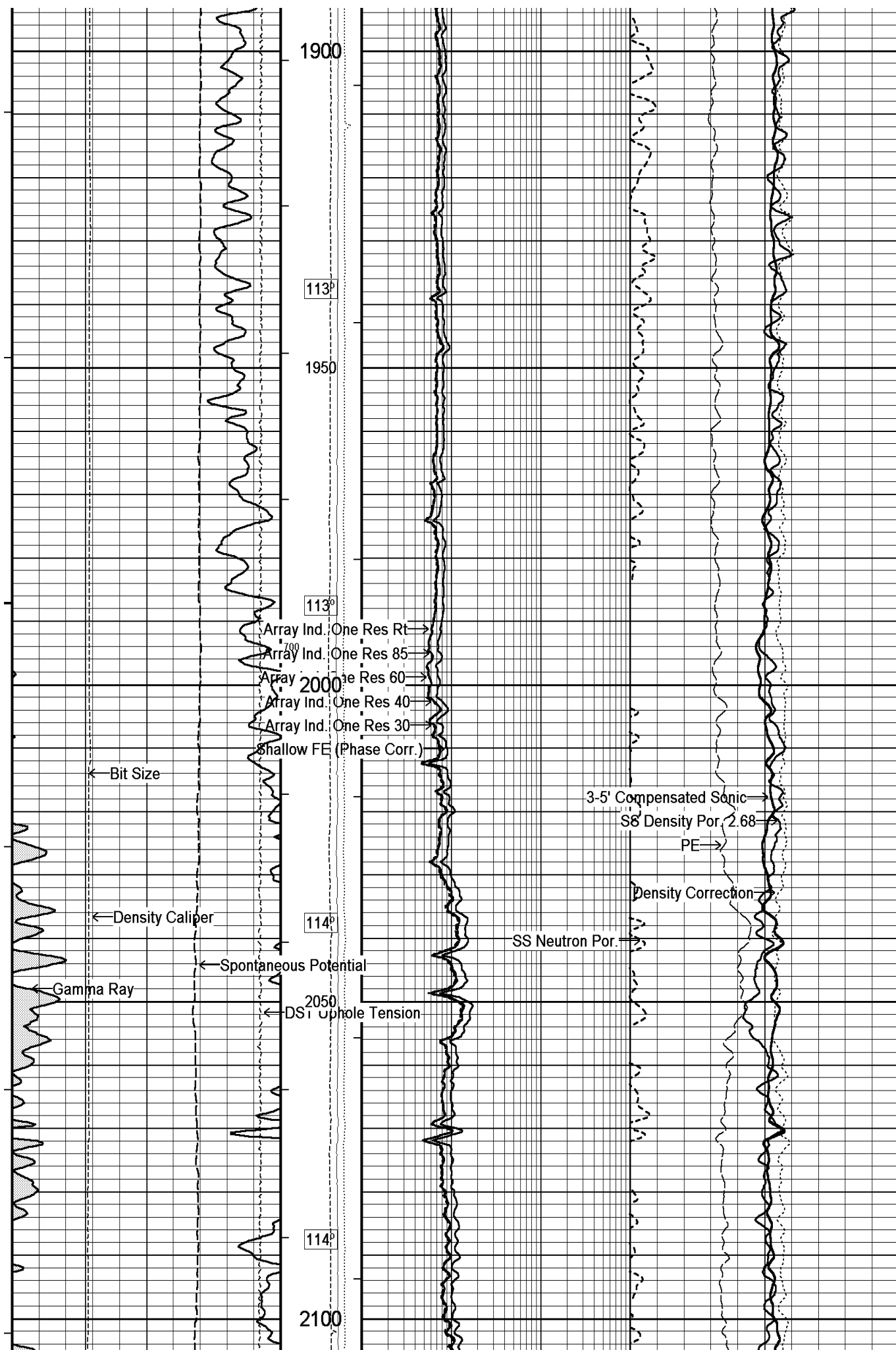


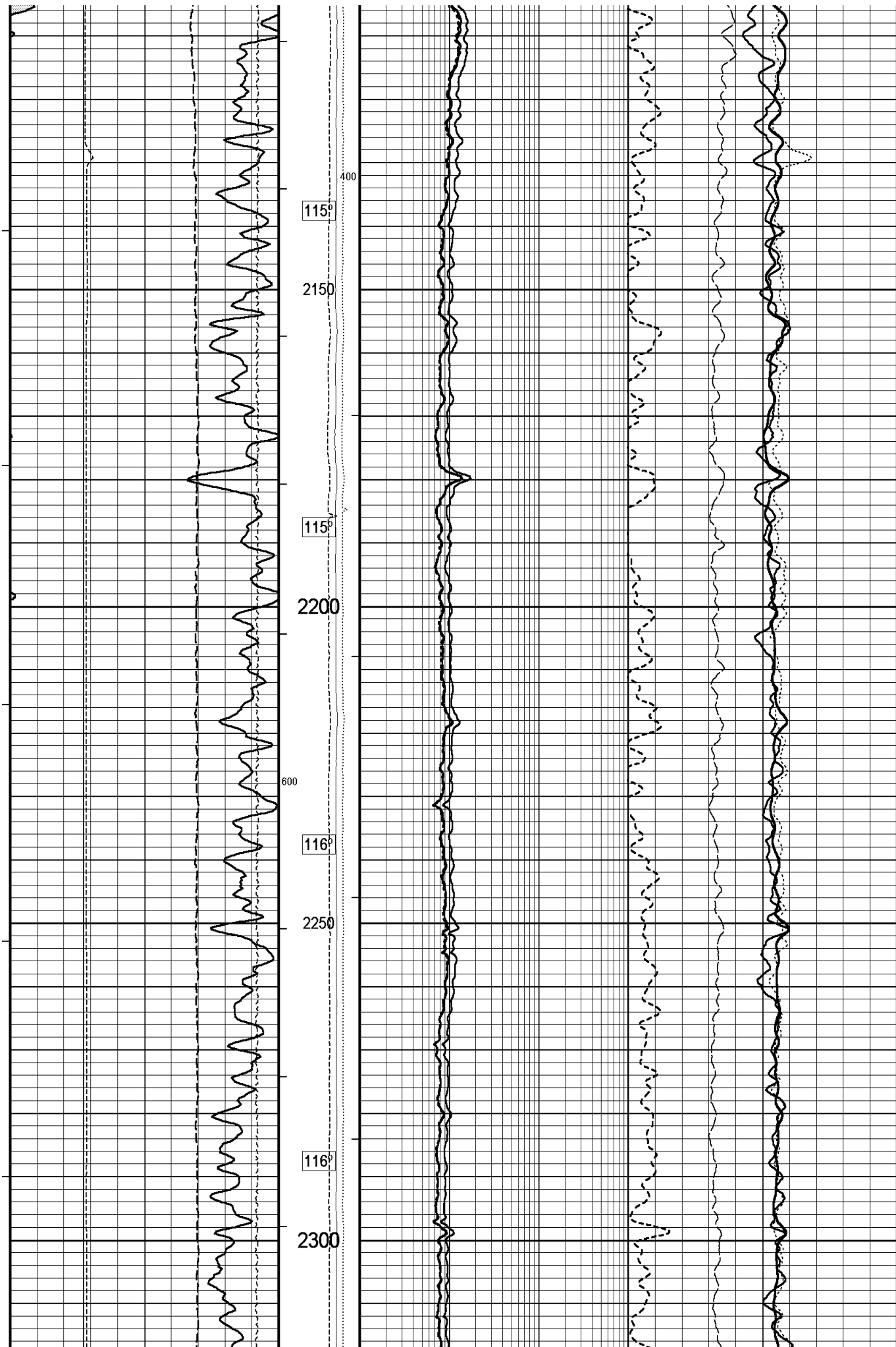


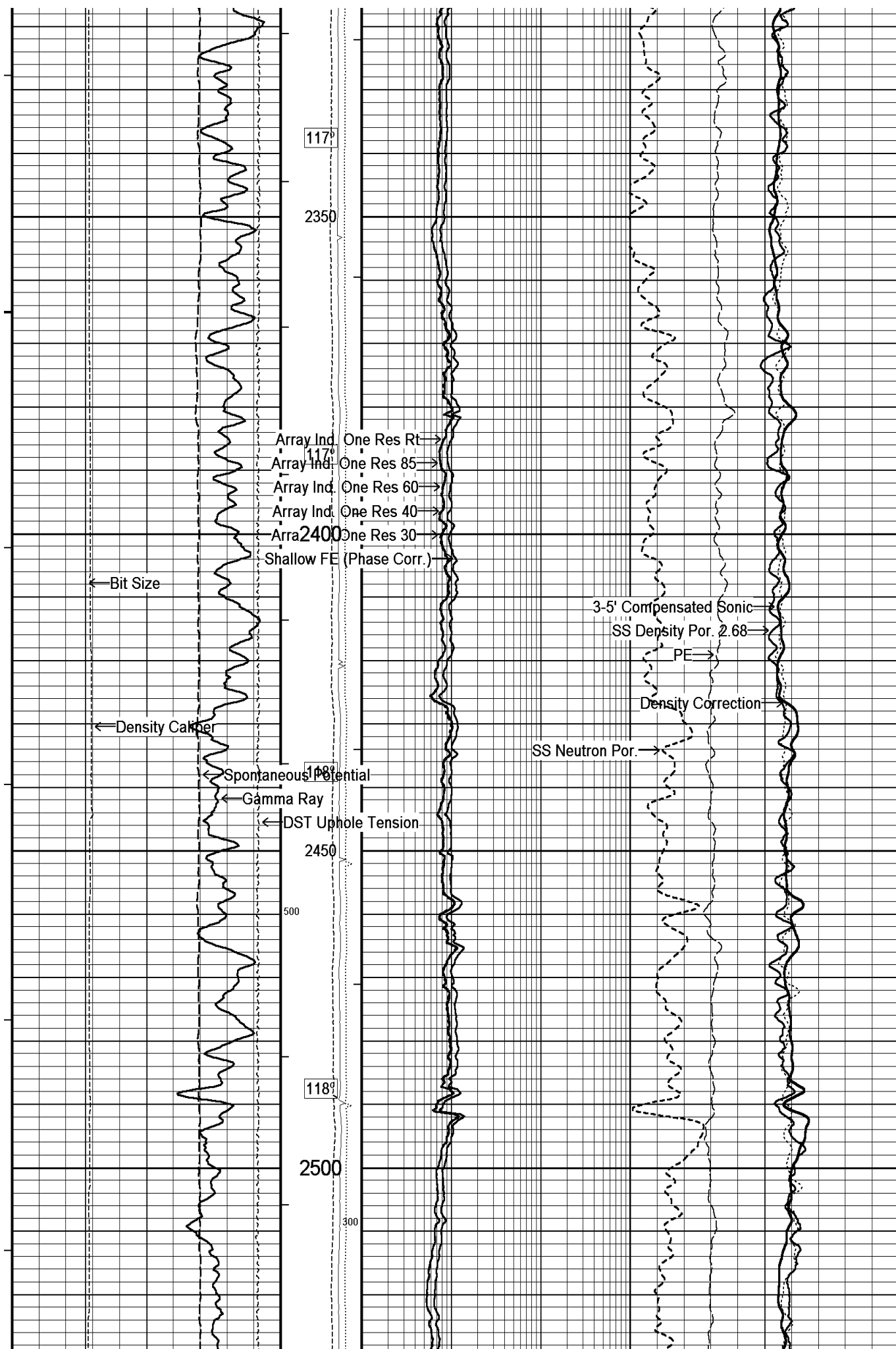


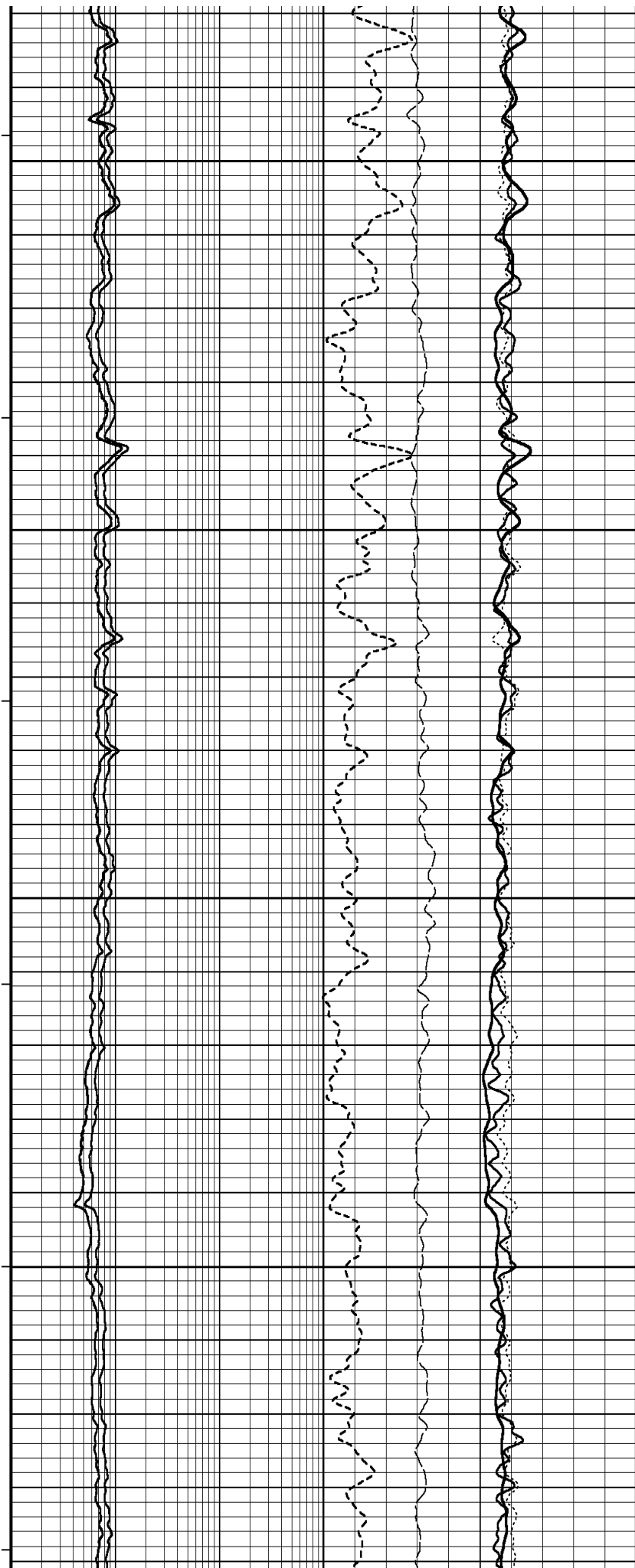
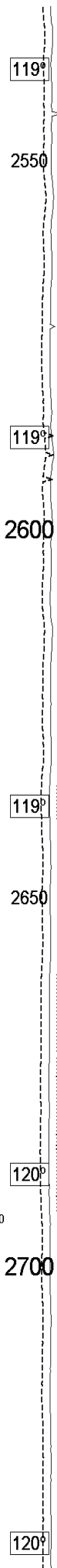
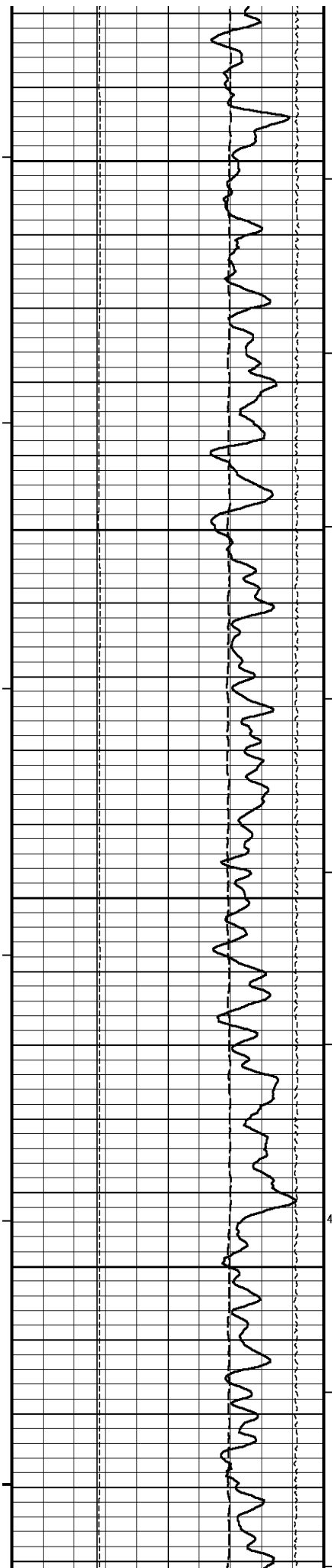


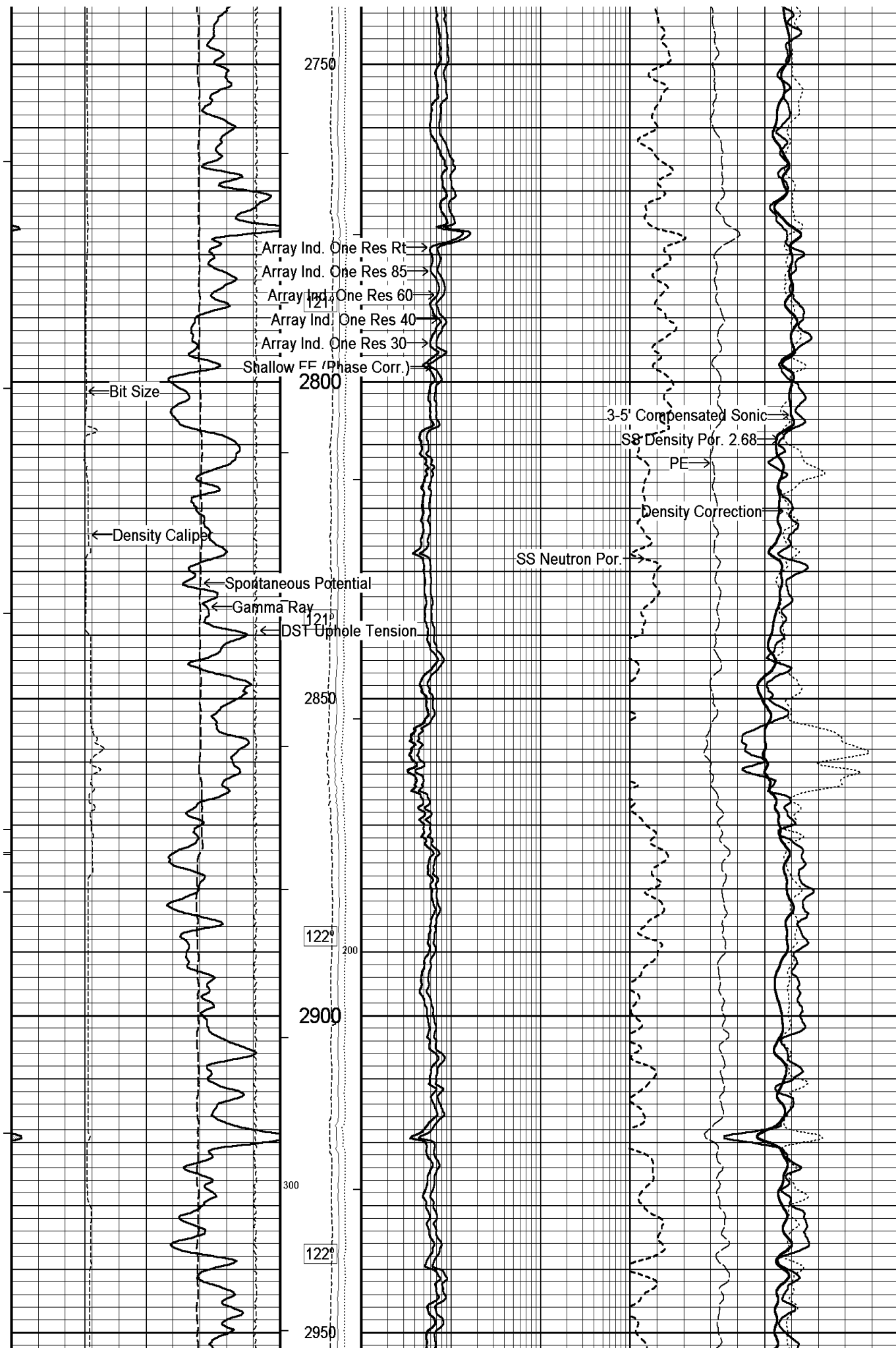


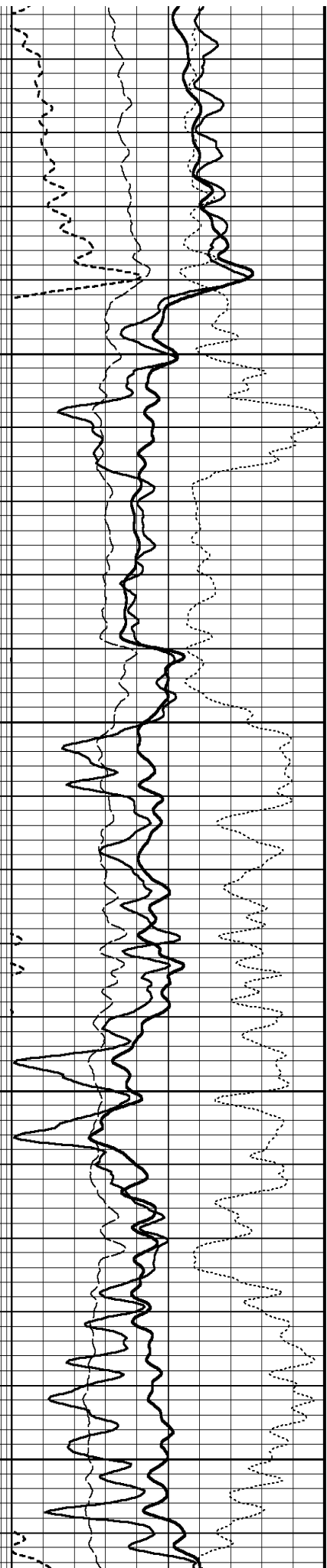
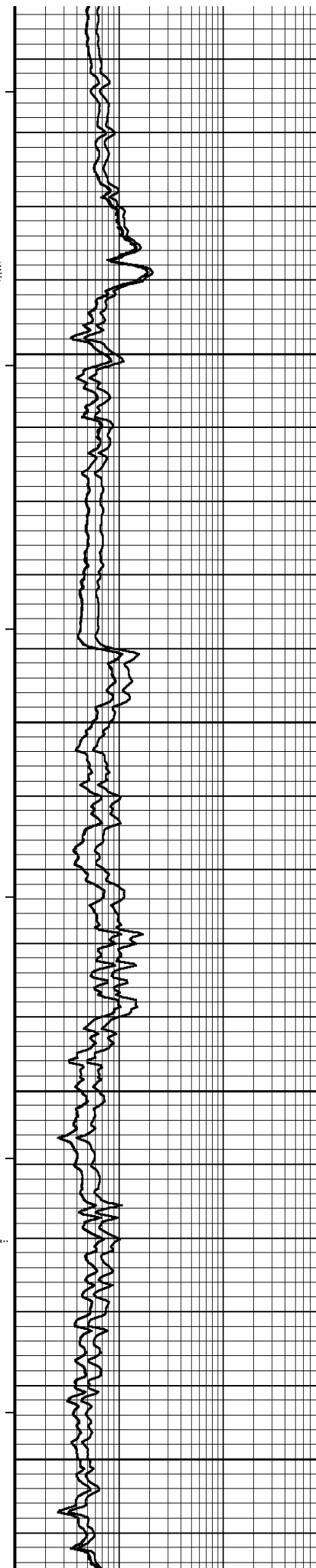


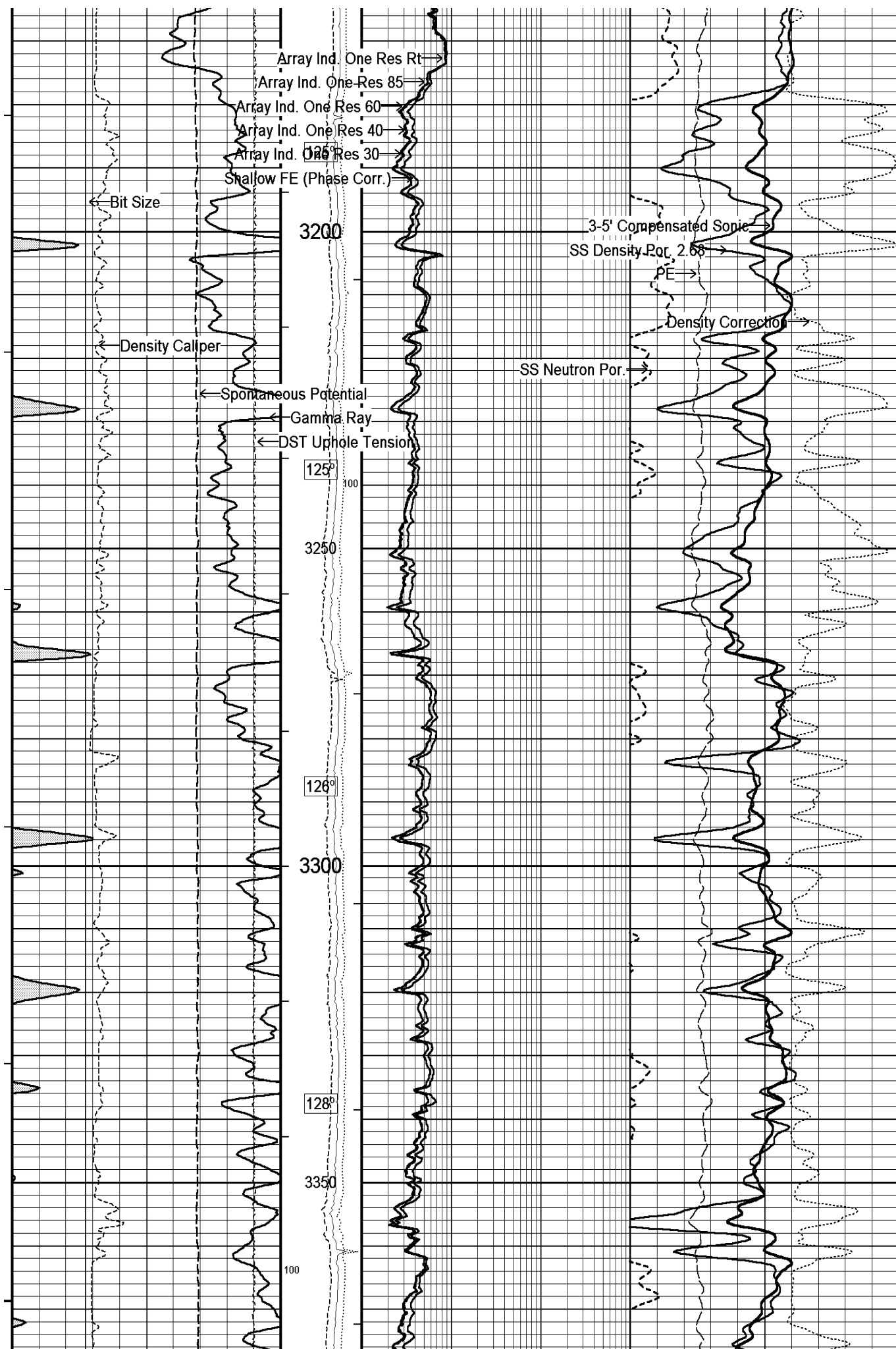


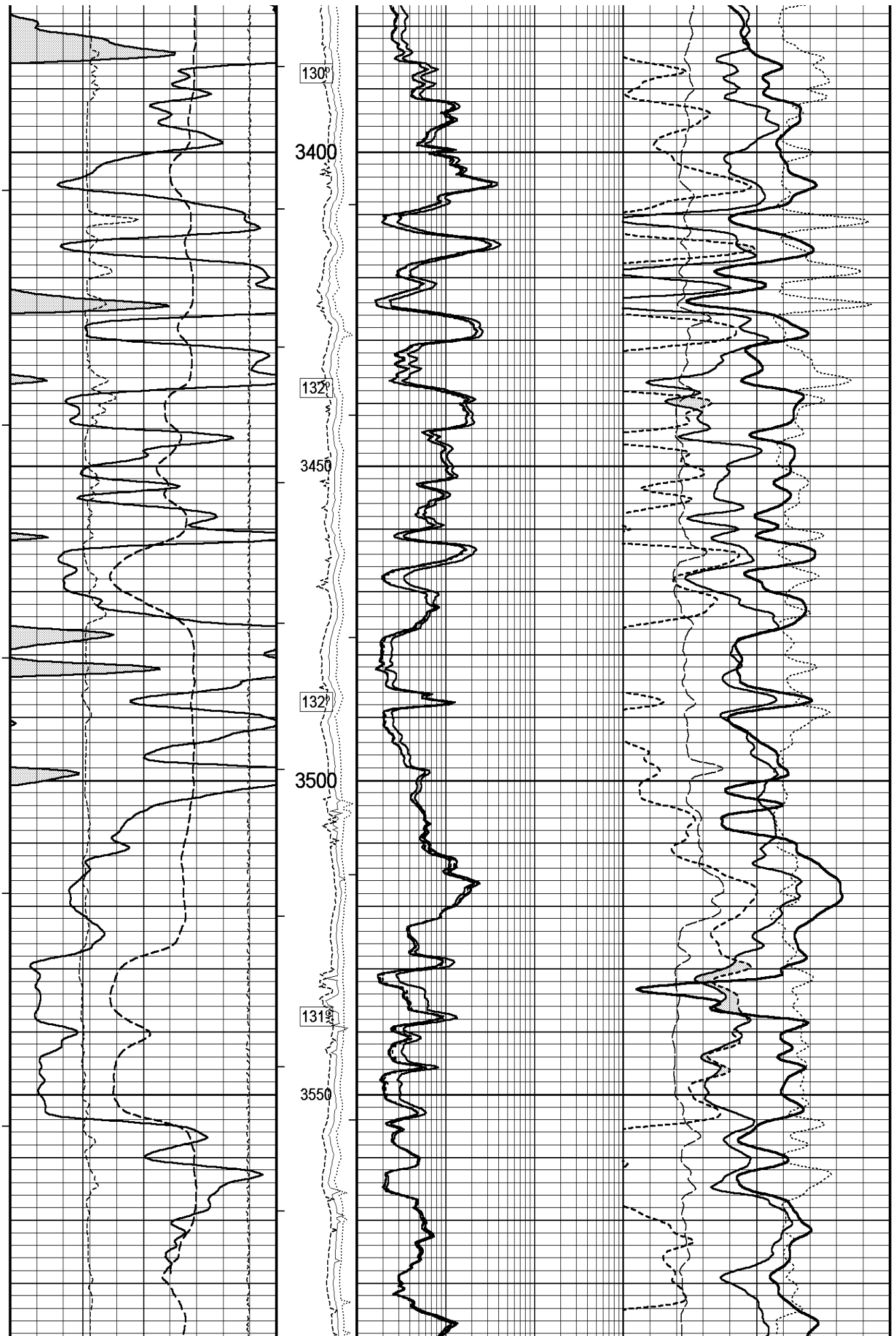


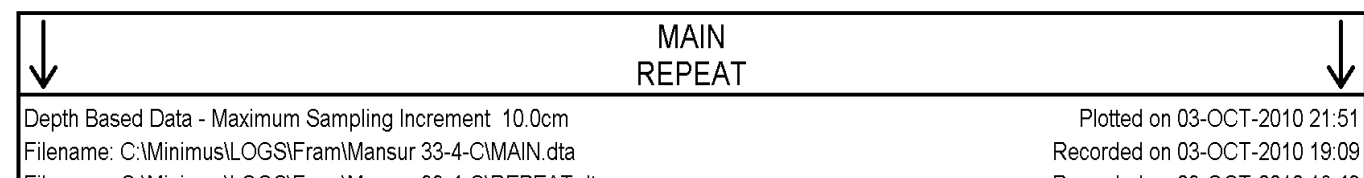
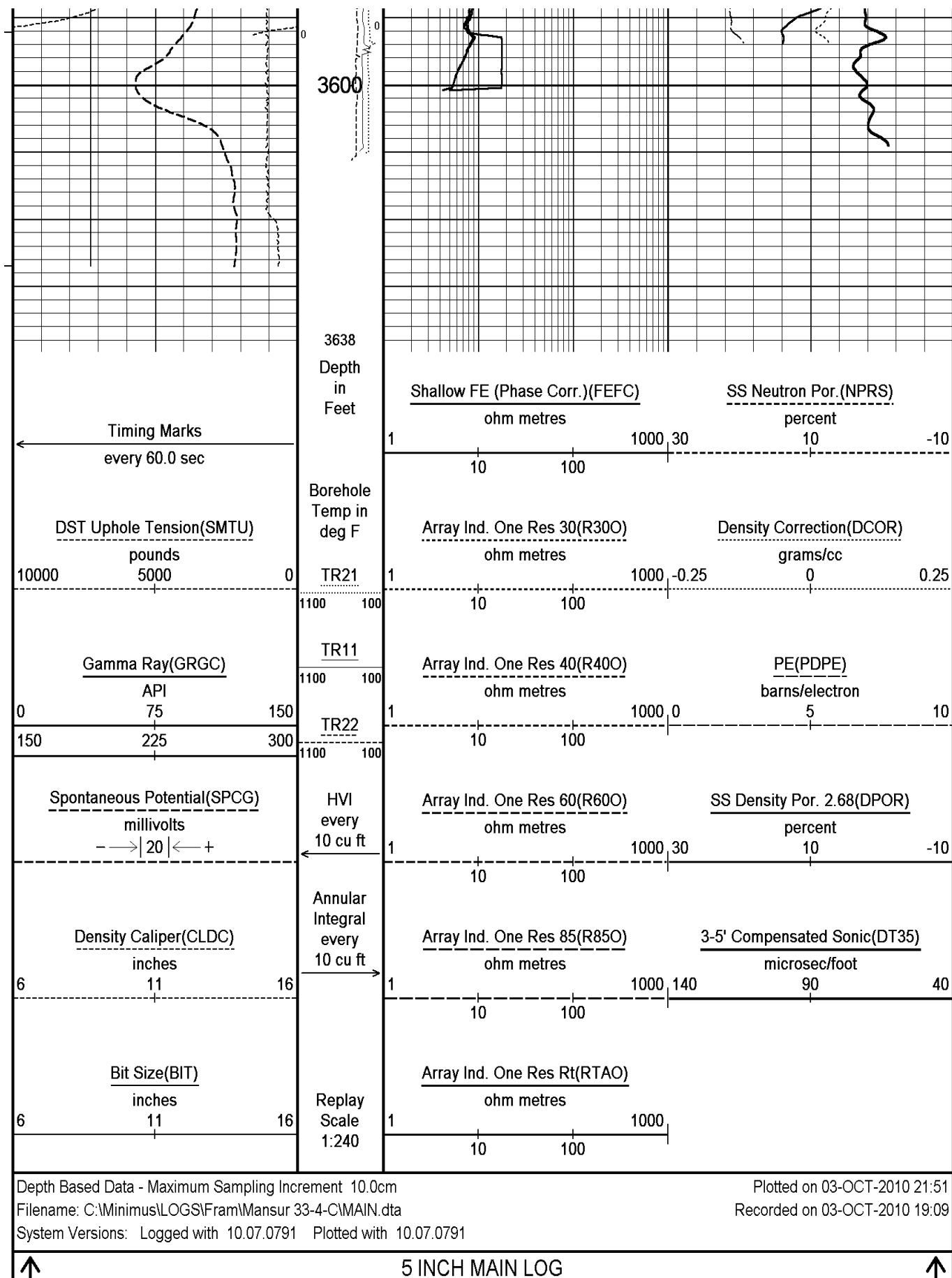


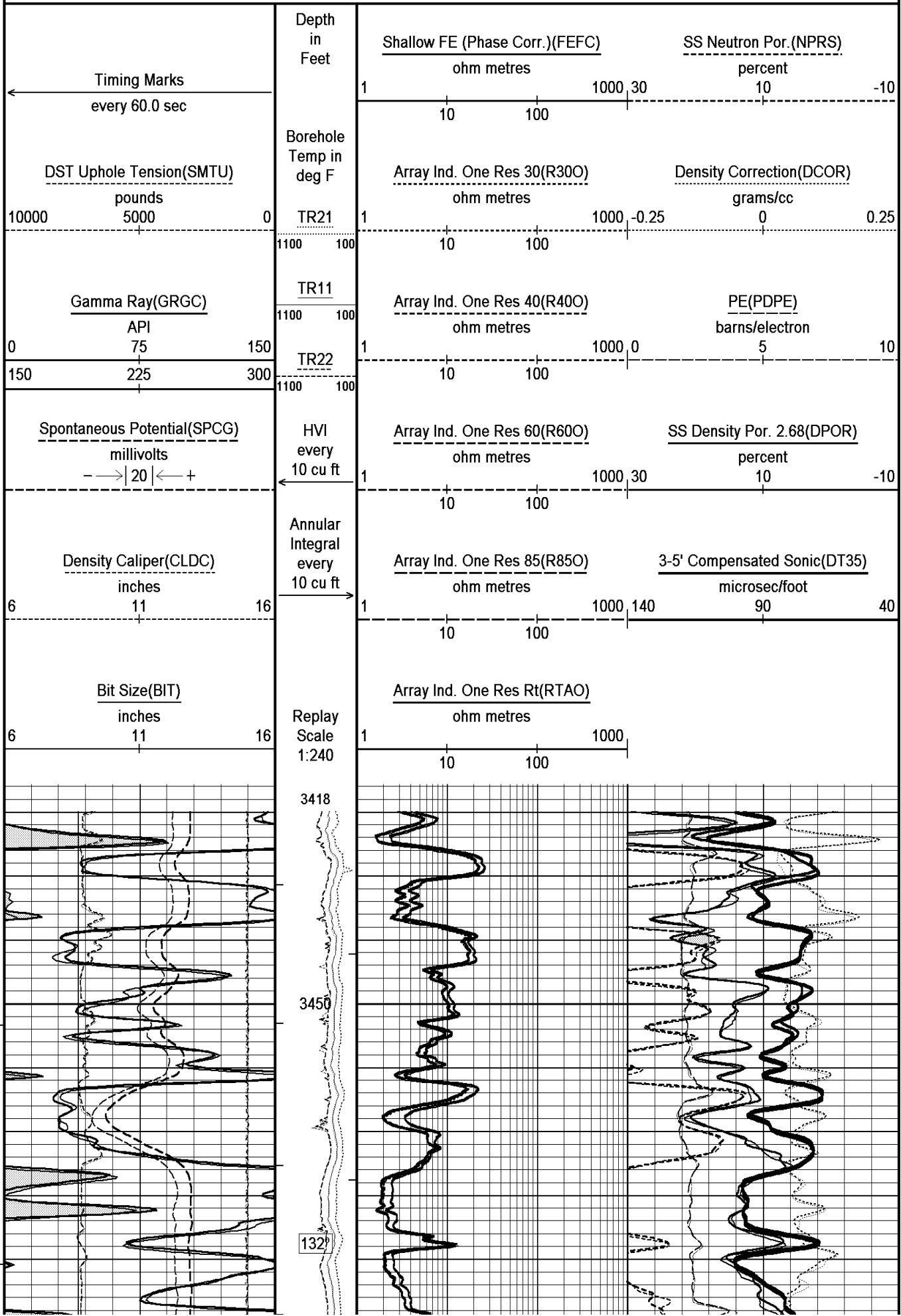


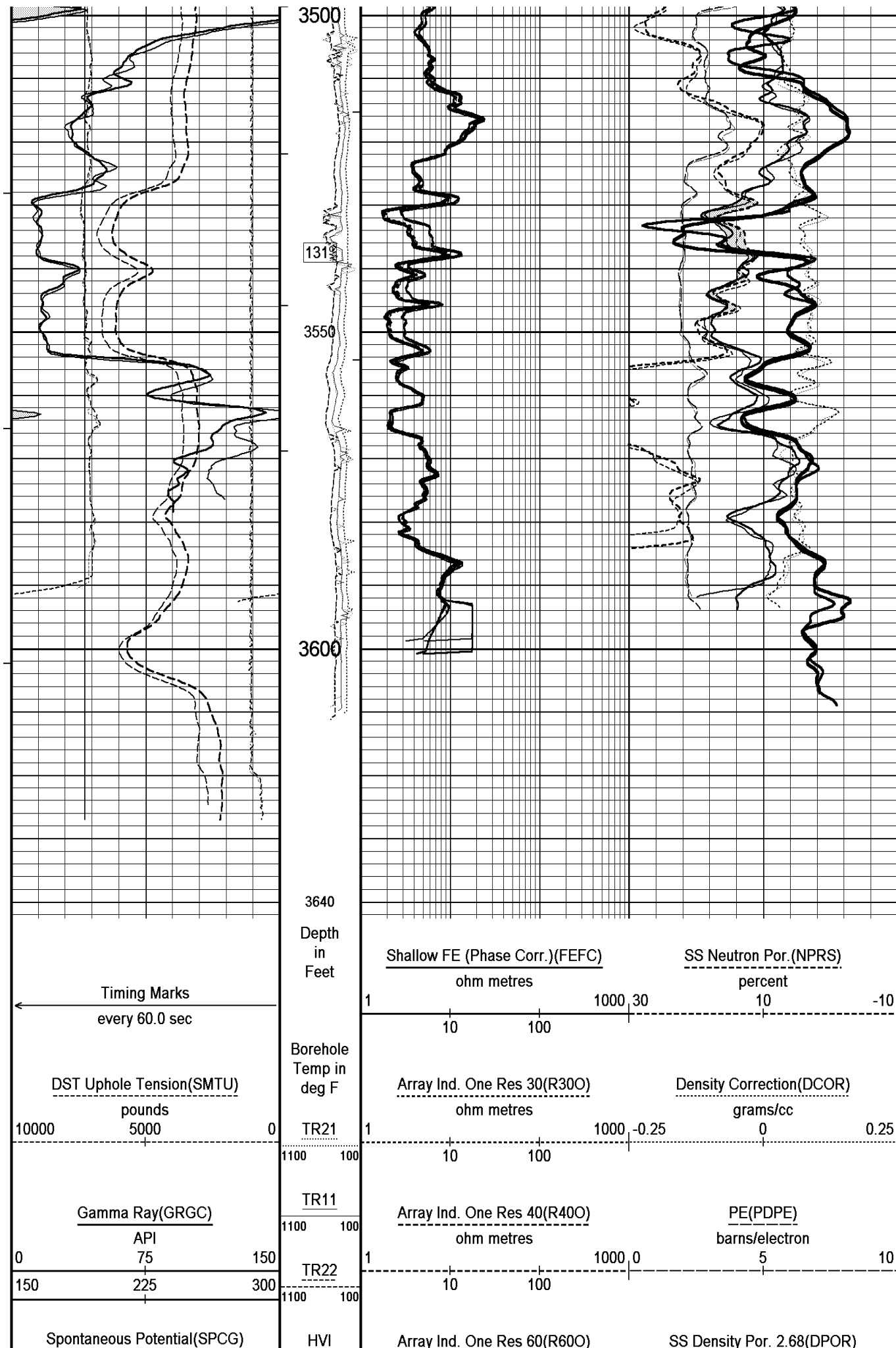


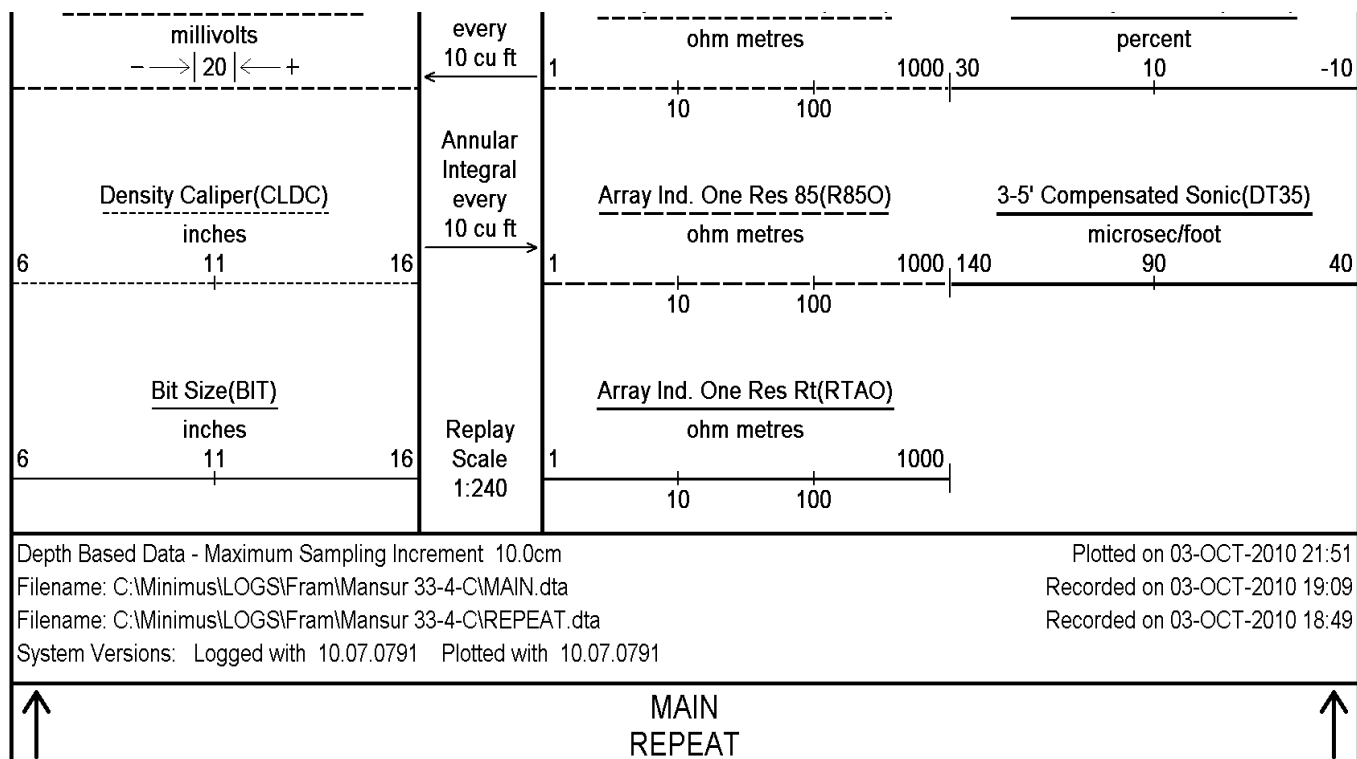












BEFORE SURVEY CALIBRATION			
C:\Minimus\LOGS\Fram\Mansur 33-4-C\MAIN.dta			
General Constants All 000		Last Edited on 03-OCT-2010,18:31	
General Parameters			
Mud Resistivity	1.780	ohm-metres	
Mud Resistivity Temperature	87.000	degrees F	
Water Level	0.000	feet	
Density/Neutron Processing	Wet Hole		
Hole/Annular Volume and Differential Caliper Parameters			
HVOL Caliper 1	Density Caliper		
HVOL Caliper 2	None		
Annular Volume Diameter	5.500	inches	
Caliper for Differential Caliper	None		
Rwa Parameters			
Porosity used	Base Density Porosity		
Resistivity used	Deep Induction		
RWA Constant A	0.610		
RWA Constant M	2.150		
Down-hole Tension Calibration SMS 000		Field Calibration on 03-OCT-2010 17:59	
Reading No	Measured	Calibrated (lbs)	
1	16264.64	0.00	
2	16673.82	400.00	
High Resolution Temperature Calibration MCG 287		Field Calibration on 03-OCT-2010,17:17	
	Measured	Calibrated(Deg F)	
Lower	10.00	10.00	
Upper	100.00	100.00	
High Resolution Temperature Constants MCG 287		Last Edited on 03-OCT-2010,17:17	
Pre-filter Length	11		
SP Calibration MCG 287		Field Calibration on 26-SEP-2010,02:48	
	Measured	Calibrated (mV)	

Reference 1	95.0	104.2
Reference 2	-87.4	-104.5
Gamma Calibration MCG 287		
		Field Calibration on 01-OCT-2010,08:47
	Measured	Calibrated (API)
Background	98	66
Calibrator (Gross)	888	593
Calibrator (Net)	789	527
Gamma Constants MCG 287		
Last Edited on 03-OCT-2010,17:16		
Gamma Calibrator Number	GRC-174	
Mud Density	1.00	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl	0.00	kppm
Neutron Calibration MDN 112		
		Base Calibration on 03-SEP-2010 14:37 Field Check on 03-OCT-2010,17:17
Base Calibration		
	Measured	Calibrated (cps)
	Near Far	Near Far
	3130 99	3714 110
Ratio	31.503	33.764
Field Calibrator at Base		
		Calibrated (cps)
		2252 3194
Ratio		0.705
Field Check		
		Calibrated (cps)
		2204 3223
Ratio		0.684
Neutron Constants MDN 112		
Last Edited on 03-OCT-2010,17:17		
Neutron Source Id	P44384	
Neutron Jig Number	NJ6584	
Epithermal Neutron	No	
Caliper Source for Processing	Density Caliper	
Stand-off	0.00	inches
Mud Density	1.00	gm/cc
Limestone Sigma	7.10	cu
Sandstone Sigma	7.00	cu
Dolomite Sigma	4.70	cu
Formation Pressure Source	None	
Formation Pressure	N/A	kpsi
Temperature Source	MCG External Temperature	
Temperature	N/A	degrees F
Mud Salinity	1.00	kppm
Formation Fluid Salinity Source	None	
Formation Fluid Salinity	N/A	kppm
Barite Mud Correction	Not Applied	
FE Calibration MFE 079		
		Base Calibration on 03-SEP-2010 16:00 Field Check on 03-OCT-2010 18:03
Base Calibration		
	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	943.5	126.8
Base Check		281.3
Field Check		281.3
FE Constants MFE 079		
Last Edited on 03-OCT-2010,17:18		
Running Mode	No Sleeve	
MFE K Factor	0.1268	
Caliper Source for FE correction	Density Caliper	

Caliper Value for FE correction	N/A	inches			
Rm Source for FE correction	Temperature Corr				
Temp. for Rm Corr.	MCG External Temperature				
Stand-off	0.5	inches			
Sonic Constants MSS 095		Last Edited on 03-OCT-2010,17:20			
Maximum Boundary Contrast	100.00	micro-sec/ft			
Fluid Transit Time	189.00	micro-sec/ft			
Limestone Transit Time	47.50	micro-sec/ft			
Sandstone Transit Time	51.30	micro-sec/ft			
Dolomite Transit Time	43.50	micro-sec/ft			
Sonic used for Porosities	3-5' Compensated Sonic				
Correction for Sonde Skew	Applied				
Cycle Stretch Algorithm	Applied				
MN3FT	N/A	micro-sec			
MX3FT	N/A	micro-sec			
Hunt-Raymer Constant	83.13	micro-sec/ft			
Sonde Mode	Compensated				
Hole Type	Open Hole				
Sonde Parameters					
	Measured	Calibrated			
Offset	N/A	0.0000			
Free Pipe	N/A	N/A			
Peak Amplitude Source	N/A				
Waveform	Start Time (micro-sec)	Width (micro-sec)	Pre Gain	Start Gain	Discriminator (mV)
3'	N/A	N/A	N/A	N/A	N/A
4'	N/A	N/A	N/A	N/A	N/A
5'	N/A	N/A	N/A	N/A	N/A
6'	N/A	N/A	N/A	N/A	N/A
Processed Fixed Gate Parameters					
Waveform Used For Processing	N/A				
Start Time (micro-sec)	End Time (micro-sec)	Discriminator (mV)	N/A		
N/A	N/A	N/A		N/A	
N/A	N/A	N/A		N/A	
N/A	N/A	N/A		N/A	
N/A	N/A	N/A		N/A	
N/A	N/A	N/A		N/A	
Full Waveform Parameters					
Use 3' Waveform to derive TR	N/A				
Use 4' Waveform to derive TR	N/A				
Use 5' Waveform to derive TR	N/A				
Use 6' Waveform to derive TR	N/A				
3' Waveform Discriminator Level	N/A	mV			
4' Waveform Discriminator Level	N/A	mV			
5' Waveform Discriminator Level	N/A	mV			
6' Waveform Discriminator Level	N/A	mV			
3' Waveform Filter	N/A				
4' Waveform Filter	N/A				
5' Waveform Filter	N/A				
6' Waveform Filter	N/A				
Semblance Level	N/A				
Semblance Window Width	N/A	micro-sec			
Sonic 1 Despiker	N/A	N/A			
Sonic 2 Despiker	N/A	N/A			
High Resolution Temperature Calibration MAI 106		Field Calibration on 26-SEP-2010,03:29			
	Measured	Calibrated(Deg F)			
Lower	50.00	50.00			
Upper	75.00	75.00			

Pre-filter Length 11

Induction Calibration MAI 106

Base Calibration on 22-MAR-2010,10:42

Field Check on

Base Calibration

Test Loop Calibration

Channel	Measured		Calibrated (mmho/m)	
	Low	High	Low	High
1	16.5	486.3	9.3	966.2
2	5.8	391.9	7.6	821.4
3	3.0	262.9	5.2	566.0
4	1.4	138.3	2.6	279.2

Array Temperature 74.6 Deg F

Channel	Base Check (mmho/m)		Field Check (mmho/m)	
	Low	High	Low	High
1	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0
Deep	0.0	0.0	0.0	0.0
Medium	0.0	0.0	0.0	0.0
Shallow	0.0	0.0	0.0	0.0

Array Temperature 0.0 0.0 Deg F

Induction Constants MAI 106

Last Edited on 03-OCT-2010,17:20

Induction Model	RtAP-WBM		
Caliper for Borehole Corr.	Density Caliper		
Hole Size for Borehole Correction	N/A	inches	
Tool Centred	No		
Stand-off Type	Fins		
Stand-off	0.50	inches	
Number of Fins on Stand-off	6.0000		
Stand-off Fin Angle	60.00	degrees	
Stand-off Fin Width	0.5000	inches	
Borehole Corr. Rm Source	Temperature Corr		
Temp. for Rm Corr.	MCG External Temperature		
Squasher Start	0.0020	mhos/metre	
Squasher Offset	N/A	mhos/metre	

Borehole Normalisation

DRM1	0.0000	DRC1	0.0000
DRM2	0.0000	DRC2	0.0000
MRM1	0.0000	MRC1	0.0000
MRM2	0.0000	MRC2	0.0000
SRM1	0.0000	SRC1	0.0000
SRM2	0.0000	SRC2	0.0000

Calibration Site Corrections

Channel 1	0.00	mmhos/metre
Channel 2	0.00	mmhos/metre
Channel 3	0.00	mmhos/metre
Channel 4	0.00	mmhos/metre

Apparent Porosity and Water Saturation Constants

Archie Constant (A)	1.00	
Cementation Exponent (M)	2.00	
Saturation Exponent (N)	2.00	
Saturation of Water for Apor	100.00	percent
Resistivity of Water for Apor and Sw	0.05	ohm-m
Resistivity of Mud Filtrate for Sw	0.00	ohm-m
Source for Rt	0.00	
Source for Rxo	0.00	

Base Calibration on 05-SEP-2010 14:29
Field Calibration on 06-SEP-2010 01:42

Field Calibration	Measured Caliper (in)	Actual Caliper (in)
	8.02	7.98

Base Calibration on 05-SEP-2010 14:16
Field Check on 03-OCT-2010 18:10

Field Check	1182.6	1761.8
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Field Check	215.5	1058.4
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Last Edited on 03-OCT-2010,17:18

[illegible]

DOWNHOLE EQUIPMENT

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SHA-H Compact Swivel Head Adaptor
SHA 182 Length: 2.30 ft Weight: 22.0 lb

Compact Gamma
MCG 287 Length: 8.70 ft Weight: 63.9 lb

Compact Neutron
MDN 112 Length: 5.04 ft Weight: 50.7 lb

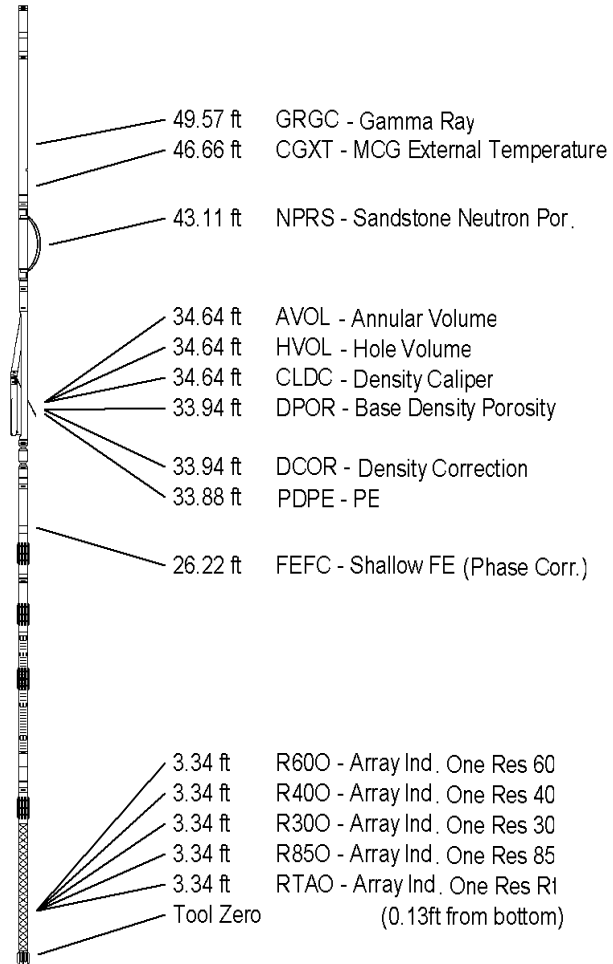
Compact Density/Caliper
MPD 167 Length: 9.59 ft Weight: 90.4 lb

SKJ-D.A Compact Knuckle Joint
SKJ 154 Length: 2.17 ft Weight: 24.3 lb

Compact Focussed Electric
MFE 79 Length: 6.03 ft Weight: 48.5 lb

Compact Sonic
MSS 95 Length: 12.52 ft Weight: 72.8 lb

Compact Induction
MAI 106 Length: 10.81 ft Weight: 48.5 lb



COMPANY	FRAM OPERATING LLC
WELL	MANSUR 33-4-C
FIELD	WHITEWATER
PROVINCE/COUNTY	MESA
COUNTRY/STATE	U.S.A. / COLORADO

Elevation Kelly Bushing	6239.00	feet	First Reading		feet
Elevation Drill Floor	6238.00	feet	Depth Driller	3650.00	feet
Elevation Ground Level	6227.00	feet	Depth Logger	3620.00	feet



Weatherford®